



Australian Bureau of Statistics

6291.0.55.001 - Labour Force, Australia, Detailed - Electronic Delivery, Jan 2014

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Summary

Main Features

REBENCHMARKING LABOUR FORCE ESTIMATES TO THE 2011 CENSUS OF POPULATION AND HOUSING

INTRODUCTION

There are two key inputs used in compiling labour force estimates:

- the measure of the population potentially available to the labour force (i.e. the civilian population aged 15 years and over), referred to as population benchmarks; and
- the labour force status of people in the population (i.e. being employed, unemployed or not in the labour force) based on data collected in the monthly Labour Force Survey (LFS).

This article describes the revisions made to labour force estimates as a result of the population benchmarks being rebenchmarked (updated) to include information from the 2011 Census of Population and Housing (Census).

This article:

- provides background to the rebenchmarking of the labour force estimates for the period July 1991 to December 2013;
- describes other improvements made to the labour force series;
- summarises the impact on key labour force series;
- details the process for maintaining the population benchmarks, and
- advises when the annual seasonal reanalysis will be conducted.

Attachment 1 provides an overview of the method for calculating the revised population benchmarks.

The rebenchmarking and other improvements to labour force series described in this article will provide clients with labour force series that:

- use the latest population benchmarks;
- use the latest geography standard which provides statistical regions that are more stable over time, consistent in size, more detailed, and are better representative of underlying settlement patterns and socio-economic relationships;
- standardises the geography and occupation classifications applied across the time

- series; and
- are more readily comparable to other ABS statistical series.

BACKGROUND TO REBENCHMARKING

Data from the LFS on persons employed, unemployed and not in the labour force are calculated so as to add to independent population benchmarks for age groups, sex and regions. These population benchmarks are based on the Estimated Resident Population (ERP) which reflects Census data adjusted for under-enumeration, and updated for births, deaths, interstate migration and net overseas migration. As labour force estimates cover the civilian population aged 15 years and over, the civilian population aged under 15 years and permanent defence personnel are deducted from ERP to create the labour force population benchmarks.

The labour force population benchmarks for the most recent nine months are initially derived as short-term projections of the most recent preliminary ERP. The labour force population benchmarks and estimates are revised when the preliminary ERP becomes available to replace the short-term projections, and again when these preliminary estimates are subsequently revised. In addition, after each Census, ERP estimates and labour force population benchmarks since the previous Census are revised and the labour force estimates are rebenchmarked to the revised population. This article focusses on the rebenchmarking following the 2011 Census rather than the more regular revisions.

The difference between population benchmarks projected from the previous Census results and the results of the next Census is known as the intercensal error. Once the latest Census results are available, ERP and labour force population benchmarks are normally revised back five years, to the previous Census, to reflect the actual growth between the two Censuses. As announced in the June 2012 issue of Australian Demographic Statistics (cat. no. 3101.0) intercensal error between the 2006 and 2011 Censuses was larger than normal due to improved methodology introduced with the 2011 Census Post Enumeration Survey which found that more people were actually counted in recent Censuses than would have been suggested by the previous methodology. As a consequence, the ABS has revised ERP and population benchmarks for 20 years rather than the usual five. For more information see Australian Demographic Statistics (cat. no. 3101.0).

From the January 2014 issue of Labour Force, Australia estimates are compiled using population benchmarks based on ERP revised following the 2011 Census. Additionally, for the period July 1991 to December 2013, labour force estimates have been rebenchmarked to the revised population benchmarks. These revisions have been introduced concurrently with the introduction of the Australian Statistical Geography Standard (ASGS). For more information on the introduction of this classification into labour force estimates see Information paper: Regional Labour Force Statistics, 2014 (cat. no. 6262.0).

OTHER IMPROVEMENTS MADE TO THE LABOUR FORCE SERIES

In addition to introducing revised population benchmarks and introducing the ASGS, the following improvements have been made to the labour force series:

- The population benchmark variable, location of usual residence is based on the Greater Capital City Statistical Areas (GCCSA) and Statistical Area Level 4s (SA4) defined in the ASGS.
- Population benchmark classes include finer age groups between 65 and 84 years old.

- Composite estimation is used across the whole series back to July 1991 (previously only used back to April 2001).
- Occupation estimates use the Australian and New Zealand Standard Classification of Occupations, 2013 back to July 1991 (previously only available back to August 1996).
- Regional estimates are presented on a consistent ASGS basis back to October 1998.
- Gross Flows estimates are available back to August 1991 (previously provided back to October 1997).

Changes to the estimation methodology have resulted in changes to the standard error models over the period of revision. These will be updated in the standard error datacube provided in Labour Force Survey Standard Errors, Data Cube, Feb 2014 (cat. no. 6298.0.55.001) concurrently with the release of this publication.

IMPACT ON LABOUR FORCE ESTIMATES

The introduction of the revised population benchmarks and other improvements described above do not involve any change to the unit record data collected in the LFS. Changes to the population benchmarks impact primarily on the level of the labour force estimates (i.e. employed, unemployed and not in the labour force) that are directly related to the underlying size of the population. Changes in population composition such as age, sex or region (as used in the population benchmarks) may result in a different rate of change especially at finer levels of geography. The rebenchmarking has not resulted in any material change to unemployment rates, participation rates or employment to population ratios at the national or state and territory levels.

As the introduction of the revised population benchmarks and other improvements have been introduced at the same time, it is not possible to separately identify impacts on the regional estimates. While, in general terms, rebenchmarking has not resulted in significant change to unemployment rates, participation rates or employment to population ratios the ASGS introduces new regional boundaries. Where the regional boundaries have not changed the rates and ratios will not change significantly. However, in some cases regional boundaries have changed significantly. As the regional estimates have been backcast to October 1998 it is recommended that historical analysis use the ASGS regions rather than comparing the current and previous regions.

In general terms level estimates for Greater Capital City Statistical Areas (GCCSA) under ASGS remain at a relatively similar magnitude to previously although this is due to a combination of the expansion of capital city boundaries under the GCCSA and reduced population benchmarks following the 2011 Census. These factors have generally resulted in level of estimates for the Rest of State decreasing.

MAINTAINING THE LABOUR FORCE POPULATION BENCHMARKS

Initial labour force estimates for the most recent periods will continue to be based on labour force population benchmarks that project forward nine months past the most recent preliminary ERP estimate to the current period and incorporate net overseas migration forecasts provided by the Department of Immigration and Border Protection.

To ensure that labour force series maintain coherence with the latest population estimates into the future, the ABS announced in the November 2012 issue that it will introduce a process of regular rebenchmarking to the revised labour force population benchmarks. From the October 2014 issue the population benchmarks will be revised quarterly (in the January,

April, July and October issues) with estimates revised for the previous eight quarters or 24 months. This will ensure that the labour force population benchmarks are updated with the most recent ERP information available.

ANNUAL SEASONAL REANALYSIS

All seasonally adjusted LFS series are analysed annually in more detail than is possible with the monthly releases. This reanalysis examines series for trend breaks, seasonal breaks, and outliers. For 2014 the reanalysis will be conducted on the rebenchmarked series with the results included in the February 2014 issue released in March. One exception is the aggregate hours series, for which the results of the reanalysis are presented in this issue.

FURTHER INFORMATION

For any queries regarding the implementation of any of these changes to the LFS contact Labour Force Estimates on Canberra 02 6252 6525, or via email at labourforce@abs.gov.au.

ATTACHMENT 1 - METHODOLOGY FOR PRODUCING THE REVISED POPULATION BENCHMARKS

The revised labour force estimates were produced by re-weighting unit record data from the LFS to population benchmarks based on ERP revised following the 2011 Census. Consistent with the current methodology, these population benchmarks were broken down into benchmark classes based on location of usual residence, sex and age in order to accurately reflect populations at finer levels. As part of updating the estimates to the current geography standard, the location classes were based the GCCSA and Statistical Area Level 4s (SA4) defined in the ASGS. The benchmark classes were improved by including finer age groups between 65 and 84 years old in order to facilitate demand for more accurate age estimates in this range and preparing for future changes in the retirement age.

Where the sample was too sparse to converge to the nominal benchmark classes, particularly during sample designs in the 1990s and the reduced sample between July 2008 and August 2009, coarser benchmark classes were selected based on combining or "collapsing" age classes until sufficient sample could be weighted to appropriately sized populations. In all cases, Northern Territory was treated as a whole territory for age and sex benchmark classes, with lower level SA4s 'Darwin' and 'Rest of NT' benchmarked to sex only - which is consistent with regional labour force estimation but not comparable to other capital cities.

The preparation of the unit record data for re-weighting provided the opportunity to recast the last 22 years of the series under consistent frameworks and estimation methodology. Composite estimation was used across the whole series back to July 1991 (previously only used back to April 2001). Occupation estimates collected under the First Edition of Australian Standard Classification of Occupations have been converted to the contemporary Australian and New Zealand Standard Classification of Occupations, 2013 back to July 1991 (previously only available back to August 1996). Industry estimates continue to be available under the Australian and New Zealand Standard Industrial Classification, 2013 back to November 1984. The patchwork of regional estimates previously provided under different versions of the Australian Standard Geographical Classification (ASGC) have been replaced by a consistent series back to October 1998 under the ASGS.

Estimates prior to July 1991 have not been revised and continue to be estimated using generalised regression using the existing 1991 Census based populations. The changes made to the labour force series are:

- Estimates between July 1991 and September 1998: estimated using composite estimation using the 2011 Census based populations at the state/territory, GCCSA, sex and age benchmark classes. Note:
 - Jervis Bay Territory is included in ACT estimates up to June 1993, consistent with the sample collection during that time. Jervis Bay Territory populations account for about an extra 1500 people over that period. From July 1993 Jervis Bay Territory is out of scope of the LFS.
 - Sample collected under the Capital City / Balance of State ASGC boundaries during this period were weighted to ASGS GCCSA based population benchmarks. Fine level geographic information was not available for this period to convert the sample populations to ASGS GCCSA boundaries.
 - Two rotation groups per month were rotated into sample between September 1992 and December 1992 during the phase in of the 1991 Census based sample design.
 - The factor previously applied to account for the minor changes to employment and unemployment definitions has not been re-applied because it was not statistically significant.
- Estimates between October 1998 and December 2013: estimated using composite estimation and population benchmarks based on ERP revised following the 2011 Census at the state/territory, GCCSA, sex and age benchmark classes in tandem with an additional benchmark set of SA4 and sex benchmarks. Note:
 - May 2000 industry and occupation estimates are not available due to part of the sample lacking industry and occupation coding after being included in a test sample for the changes to the Labour Force Questionnaire in April 2001.
 - A series break remains at April 2001 due to the introduction of definitional changes to unemployment to include all persons who were waiting to start work and were available to start in the reference week.
 - The reduced sample remains during the period July 2008 to August 2009
 - Two rotation groups per month were rotated into sample between May 2013 and August 2013 during the phase in of the 2011 Census based sample design.

Changes to the estimation methodology have resulted in changes to the standard error models over the period of revision. These will be updated in the standard error datacube provided in Labour Force Survey Standard Errors, Data Cube, Feb 2014 (cat. no. 6298.0.55.001) concurrently with the release of this publication.

Analysis of changes to Labour Force Regional Estimates

ANALYSIS OF CHANGES TO LABOUR FORCE REGIONAL ESTIMATES

Introduction

From the January 2014 issue of Labour Force, Australia, Detailed (cat. no. 6291.0.55.001), regional estimates are based on the Australian Statistical Geography Standard (ASGS) with

estimates revised back to October 1998. Previously, regional labour force data under the superseded Australian Standard Geographical Classification (ASGC) were only available back to November 2007. Regional Labour Force data are now available to ASGS Statistical Area Level 4 (SA4) regions, which are based on discrete labour markets as determined by the journey-to-work information collected in the 2011 Census of Population and Housing. For more information on the introduction of this classification into labour force estimates see Information paper: Regional Labour Force Statistics, 2014 (cat. no. 6262.0).

Additionally, for the period July 1991 to December 2013, labour force estimates have been rebenchmarked to revised population benchmarks, compiled using the latest population benchmarks from the ERP revised following the 2011 Census. These revisions have been introduced concurrently with the introduction of the ASGS.

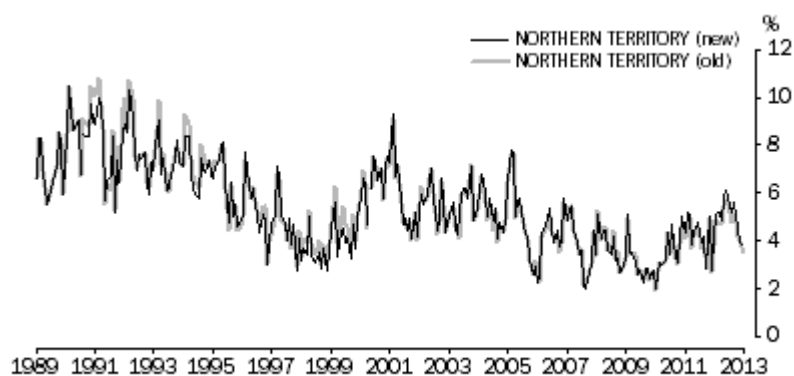
General Impacts

This article explains the impact of these improvements on regional labour force estimates. In particular, the article uses three labour force regions as examples of how the impacts vary across regions.

The introduction of the revised population benchmarks and ASGS do not involve any change to the underlying unit record data collected in the LFS. Changes to the population benchmarks impact primarily on the level of the labour force estimates (i.e. employed, unemployed and not in the labour force) that are directly related to the size of the population. Changes in population composition such as age, sex or region (as used in the population benchmarks) may result in a different rate of change especially at finer levels of geography. The rebenchmarking has not resulted in any material change to unemployment rates, participation rates or employment to population ratios at the national or state and territory levels.

The state or territory with the largest revision to Unemployment Rate was Northern Territory, with an average revision of ± 0.2 pts. The largest revision was -1.2 pts in December 1991.

UNEMPLOYMENT RATE



Note: Series breaks at July 1991 and April 2001.

UNEMPLOYMENT RATE DIFFERENCE, Northern Territory



Note: Series breaks at July 1991 and April 2001.

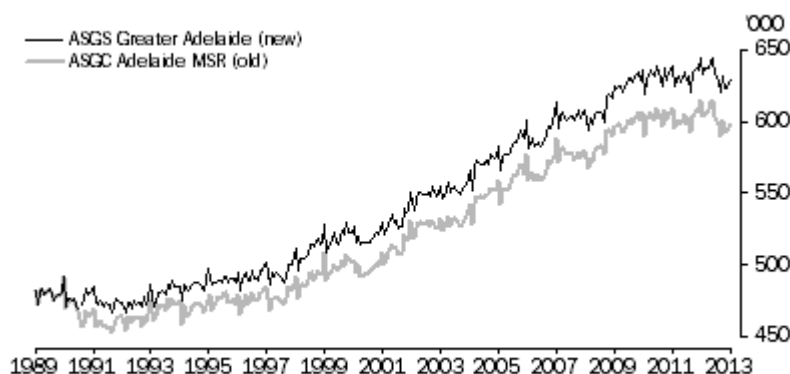
Most of the larger revisions apply to the period between July 1991 and March 2001 where composite estimation has now been applied to reduce volatility in the month-to-month estimates.

Capital City / Rest of State estimates

In general terms, level estimates for Greater Capital City Statistical Areas (GCCSA) under ASGS remain at relatively similar magnitudes to previously, although this is due to a combination of the expansion of capital city boundaries under the GCCSA and reduced population benchmarks following the 2011 Census. These factors have generally resulted in lower levels for the Rest of State estimates.

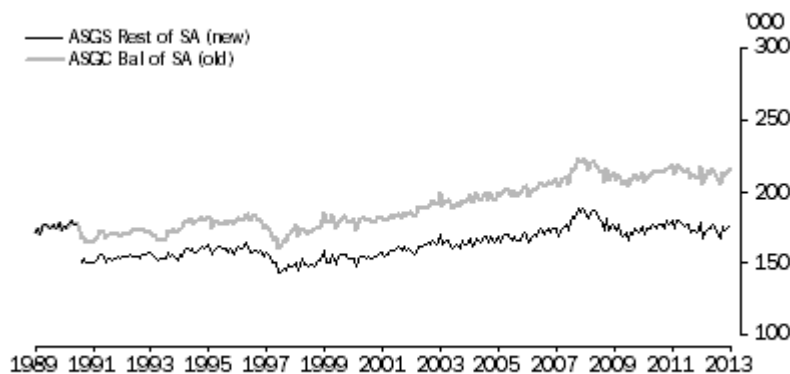
The state with the largest percentage change at the Capital City / Rest of State level was South Australia, as shown below.

EMPLOYED TOTAL



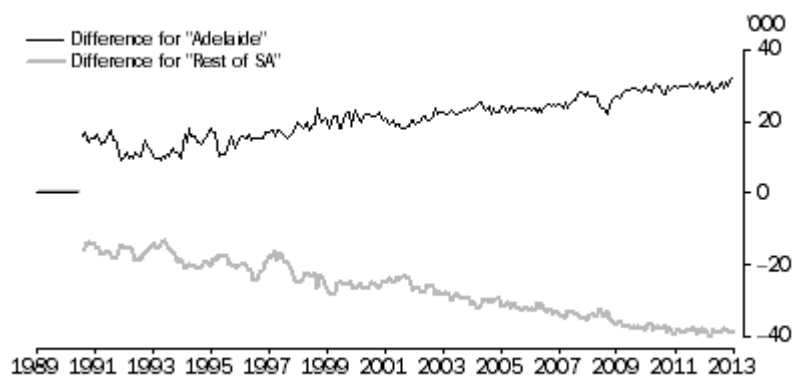
Note: Series break at July 1991.

EMPLOYED TOTAL



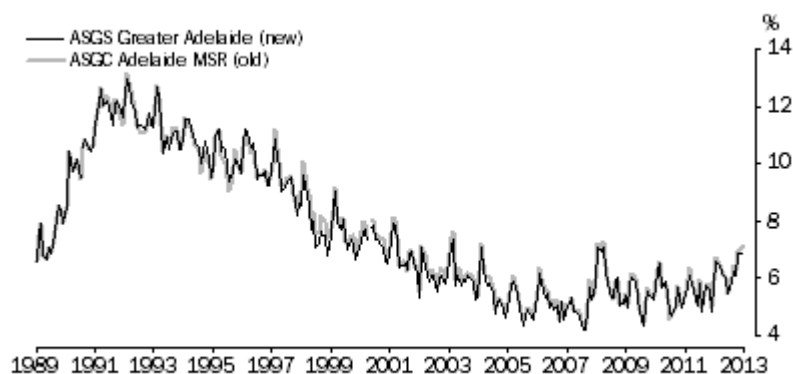
Note: Series break at July 1991.

EMPLOYED TOTAL



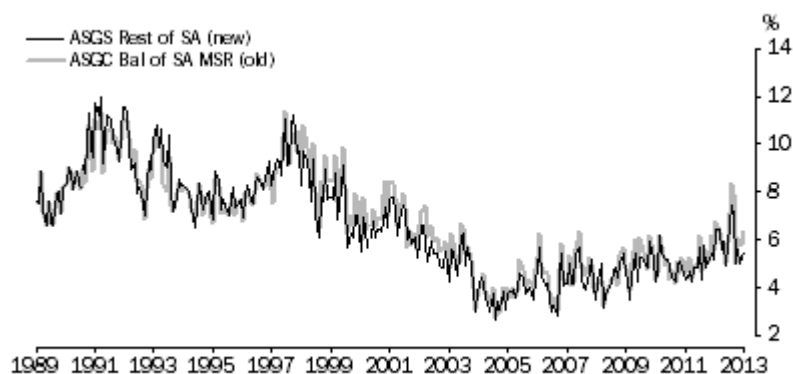
Note: Series break at July 1991

UNEMPLOYMENT RATE



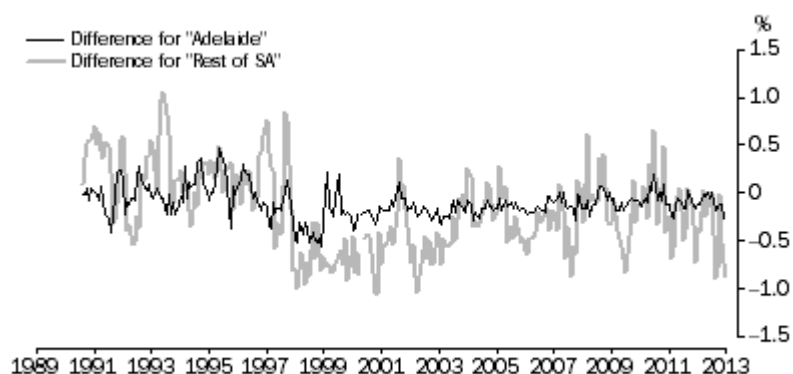
Note: Series breaks at July 1991 and April 2001

UNEMPLOYMENT RATE



Note: Series breaks at July 1991 and April 2001

UNEMPLOYMENT RATE



Note: Series breaks at July 1991 and April 2001

The map below compares the ASGS Adelaide Greater Capital City Statistical Area boundary (in red) and the Adelaide Major Statistical Region of the ASGC (in green). This shows that the ASGS region is larger than the comparable region under the ASGC.



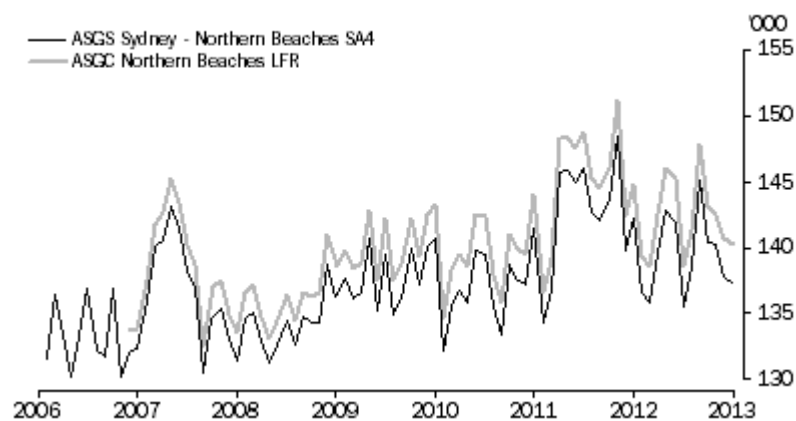
Regional Impacts

As the introduction of the revised population benchmarks and other improvements have been introduced at the same time, it is not possible to separately identify impacts on the regional estimates. While, in general terms, rebenchmarking has not resulted in significant change to unemployment rates, participation rates or employment to population ratios, the ASGS introduces new regional boundaries. Where the regional boundaries have not changed the rates and ratios will not change significantly. It is recommended that historical analysis be based on the ASGS series.

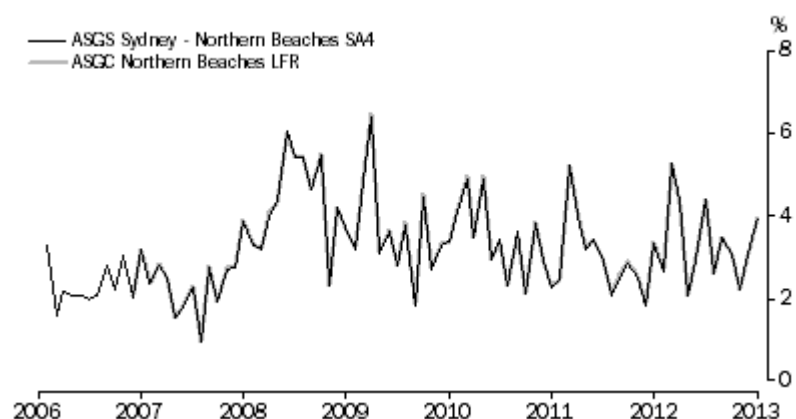
The following examples highlight the variable impacts that can be observed between ASGS and ASGC labour force regions.

One of the regions with a direct 1:1 correspondence between the ASGS SA4s and the ASGC Labour Force Regions is the 'Sydney - Northern Beaches' SA4. Revisions to this region are shown below:

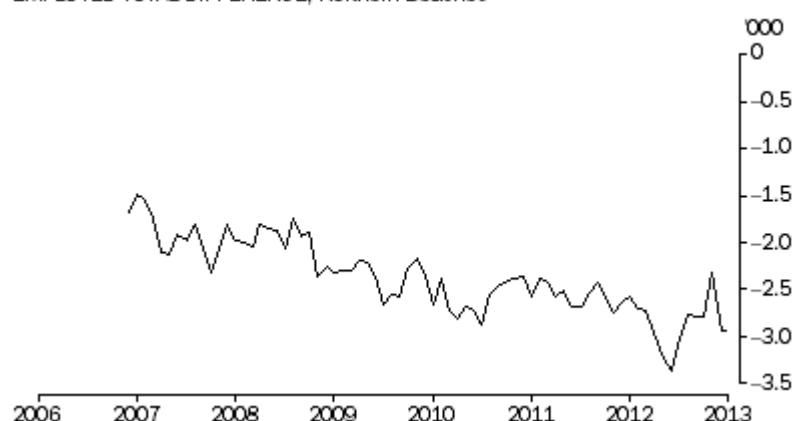
EMPLOYED TOTAL



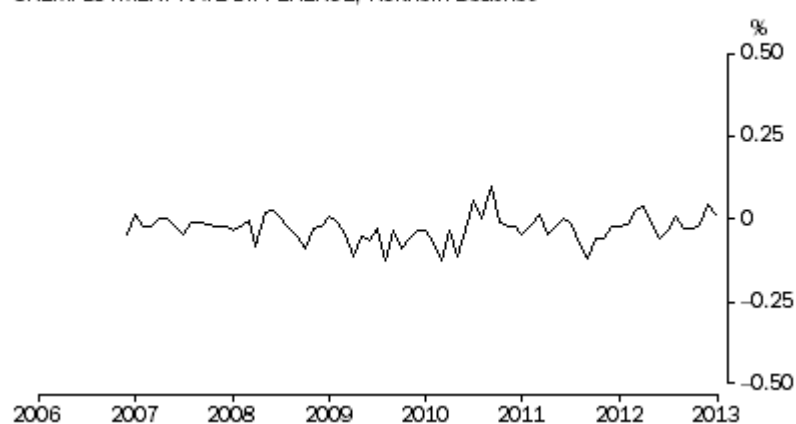
UNEMPLOYMENT RATE



EMPLOYED TOTAL DIFFERENCE, Northern Beaches



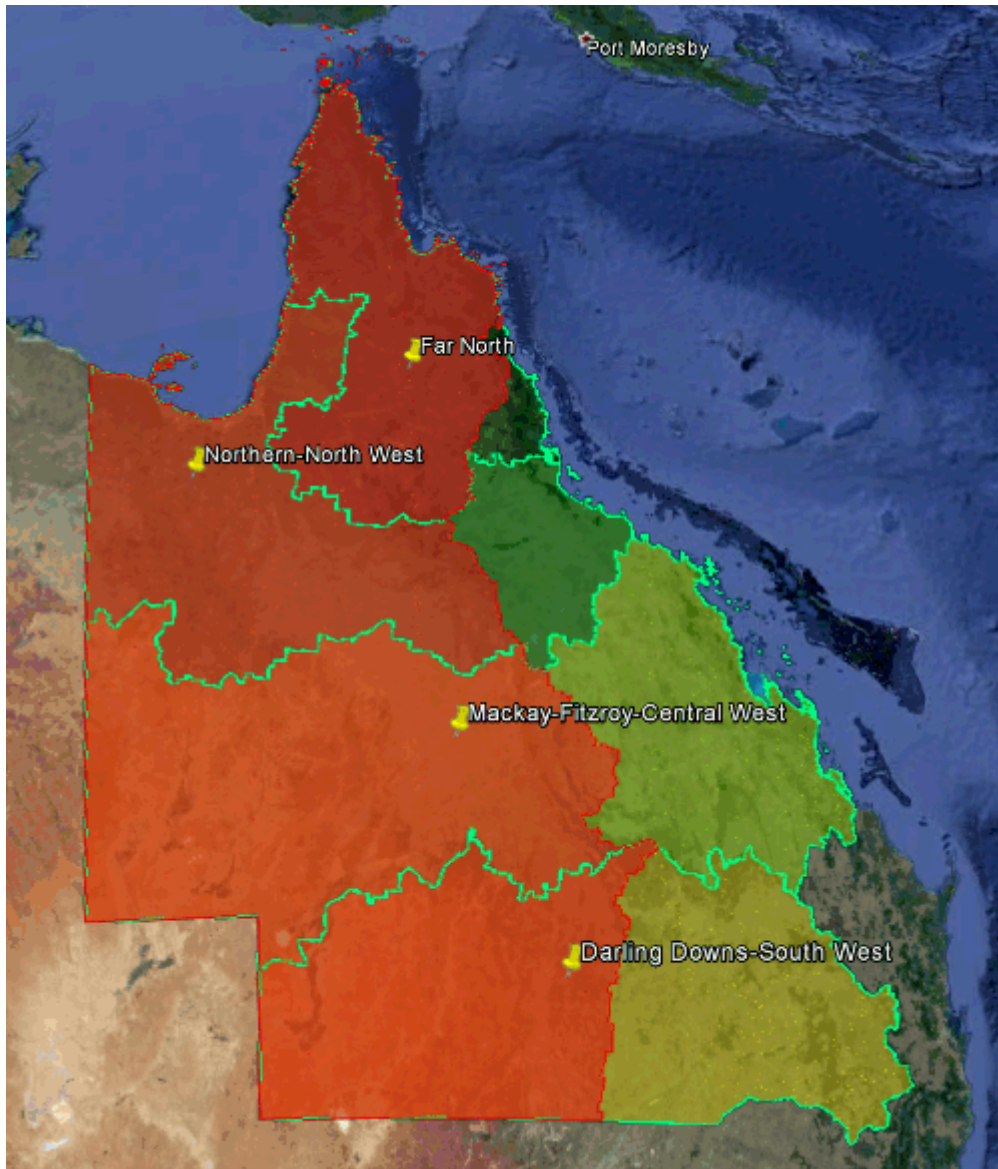
UNEMPLOYMENT RATE DIFFERENCE, Northern Beaches



However, in some cases regional boundaries have changed significantly. As the regional estimates have been backcast to October 1998 it is recommended that historical analysis use the ASGS regions rather than comparing the current and previous regions.

For example, one of the regions with a complex correspondence between ASGS SA4s and

the ASGC Labour Force Regions is 'Queensland - Outback' SA4 as shown below. The red region is the new SA4, the four underlying green regions are the corresponding areas from the old ASGC Labour Force Regions - 'Mackay-Fitzroy-Central West', 'Darling Downs-South West', 'Northern-North West' and 'Far North'.



By using the correspondence provided in Australian Statistical Geography Standard (ASGS): Correspondences, July 2011 (cat. no. 1270.0.55.006), an approximation of the Queensland - Outback SA4 estimates can be calculated from the ASGC Labour Force Region data

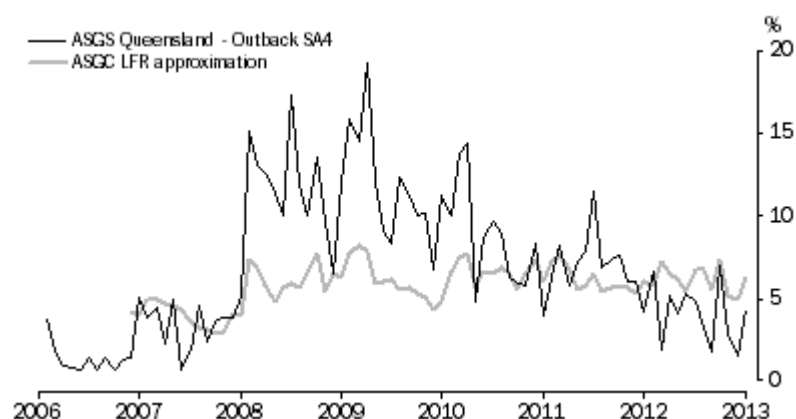
Labour Force Regions 2007 to Statistical Area Level 4 2011

LFR_ID	LFR_NAME	SA4_CODE_2011	SA4_NAME_2011	RATIO	PERCENTAGE
350	Mackay-Fitzroy-Central West	315	Queensland - Outback	0.036	3.6%
351	Darling Downs-South West	315	Queensland - Outback	0.036	3.6%
352	Northern-North West	315	Queensland - Outback	0.150	15.0%
353	Far North	315	Queensland - Outback	0.117	11.7%

EMPLOYMENT TOTAL



UNEMPLOYMENT RATE



The ASGS Queensland - Outback SA4 is more volatile than the approximation based on the four combined ASGC Labour Force Regions. The approximation is based on the (unlikely) assumption that labour force characteristics are uniform within each of the four labour force regions and a pro-rated average can be used to approximate the labour force characteristics of the areas that overlap with the SA4. This effectively means that people interviewed outside of the SA4 but still within the four overlapping ASGC Labour Force Regions are contributing to the approximation, which results in a larger effective sample and lower volatility, but a less accurate representation of the Queensland - Outback SA4 region.

Changes to the regional labour force estimates have resulted in changes to the standard error models over the period of revision. These have been updated in the standard error datacube provided in Labour Force Survey Standard Errors, Data Cube, Feb 2014 (cat. no. 6298.0.55.001), which was released on 13 February 2014. Updates to the 25% RSE cut-off values have also been made to the standard error tables in this publication.

For any queries regarding the implementation of any of these changes to the LFS contact Labour Force Estimates on Canberra 02 6252 6525, or via email at labourforce@abs.gov.au.

Article Archive

This section provides an archive of articles and analysis published in Labour Force, Australia (cat. no. 6202.0), promoting the effective use of labour force statistics. Articles are sorted by publication date.

Articles on labour related topics are also regularly released in Australian Labour Market Statistics (cat. no. 6105.0) and Australian Social Trends (cat. no. 4102.0).

Rebenchmarking Labour Force Estimates to the 2011 Census of Population	January 2014
Understanding the Australia Labour Force using ABS statistics	December 2013
What's new in the Labour Force	December 2013
What's new in the labour force	November 2013
What's new in the Labour Force	September 2013
Understanding full-time/part-time status in the Labour Force Survey	September 2013
What's new in the Labour Force	June 2013
New Labour Force Sample Design	May 2013
Annual Seasonal Reanalysis	May 2013
What's new in Labour Force	May 2013
Transition to online collection of the Labour Force Survey	April 2013
What's new in Labour Force	April 2013
Estimating Jobs in the Australian Labour Market	February 2013
Forthcoming improvements to the content of the Labour Force and Labour Supplementary Surveys	January 2013
What's new in Labour Force	January 2013
Understanding the Australian Labour Force using ABS statistics	January 2013
Rebenchmarking of Labour Force Series	November 2012
Upcoming changes to the Labour Force Survey	July 2012
Labour Household Surveys content review and the Labour Force Survey	June 2012
Employment and mining in Queensland, New South Wales and Western Australia	May 2012
ABS Response to recent concerns expressed about employment estimates	April 2012
Population Benchmarks and Labour Force Survey	April 2012
Annual Seasonal Reanalysis	March 2012
Exploring Labour Force Data on joblessness	February 2012
Employment level estimates versus employment to population explained	January 2012
Understanding the Australian Labour Force using ABS statistics	November 2011
Historical Revisions	February 2011
Impact of the floods on the Labour Force Survey	January 2011

About this Release

A range of Excel spreadsheets and SuperTABLE datacubes. The monthly spreadsheets contain broad level data covering all the major items of the Labour Force Survey in time series format, including seasonally adjusted and trend estimates. The monthly datacubes contain more detailed and cross classified original data than the spreadsheets.

Explanatory Notes

Explanatory Notes

Data from the monthly Labour Force Survey are released in two stages. The Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003) are part of the second release, and include detailed data not contained in the Labour Force, Australia (cat. no. 6202.0) product set, which is released one week earlier.

The Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) is released monthly. Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003) includes data only collected in February, May, August and November (including industry and occupation).

Since these products are based on the same data as the Labour Force, Australia (cat. no. 6202.0) publication, the 6202.0 Labour Force, Australia Explanatory Notes are relevant to both releases.

Quality Declaration - Summary

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

Labour Force statistics are compiled from the Labour Force Survey which is conducted each month throughout Australia as part of the Australian Bureau of Statistics (ABS) household survey program. For information on the institutional environment of the ABS, including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The Labour Force Survey provides monthly information about the labour market activity of Australia's resident civilian population aged 15 years and over. The Labour Force Survey is designed to primarily provide estimates of employment and unemployment for the whole of Australia and, secondarily, for each state and territory.

TIMELINESS

The Labour Force Survey enumeration begins on the Sunday between the 5th and 11th of the month, except for the Christmas and New Year holiday period. In December enumerations starts between the 3rd and 9th (4 weeks after November enumeration begins). In January enumeration starts between the 7th and 13th (5 weeks after December enumeration begins).

Key estimates from the Labour Force Survey are published in two stages. The first, *Labour Force, Australia* (cat. no. 6202.0), is released 32 days after the commencement of enumeration for the month, with the exception of estimates for December which are published 39 days after the commencement of enumeration.

The second stage includes detailed data that were not part of the first stage and are published in Labour Force, Australia, Detailed - Electronic Delivery (cat. no. 6291.0.55.001) and Labour Force, Australia, Detailed, Quarterly (cat. no. 6291.0.55.003). The second stage is released 7 days after the first stage.

ACCURACY

The Labour Force Survey is based on a sample of private dwellings (approximately 26,000 houses, flats etc) and non-private dwellings, such as hotels and motels. The sample covers about 0.32% of the Australian civilian population aged 15 years or over. The Labour Force Survey is designed primarily to provide estimates of key labour force statistics for the whole of Australia and, secondarily, for each state and territory.

Two types of error are possible in an estimate based on a sample survey: non-sampling error and sampling error.

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of cooperation, with an average response rate for the last year being 95%.

Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors.

Standard errors of key estimates and movements since the previous month are available in Labour Force, Australia (cat. no. 6202.0). The standard error of other estimates and movements may be calculated by using the spreadsheet contained in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001).

COHERENCE

The ABS has been conducting the Labour Force Survey each month since February 1978. While seeking to provide a high degree of consistency and comparability over time by minimising changes to the survey, sound survey practice requires careful and continuing maintenance and development to maintain the integrity of the data and the efficiency of the collection.

The changes which have been made to the Labour Force Survey have included changes in sampling methods, estimation methods, concepts, data item definitions, classifications, and time series analysis techniques. In introducing these changes the ABS has generally revised previous estimates to ensure consistency and coherence with current estimates. For a full list of changes made to the Labour Force Survey see Chapter 20 in Labour Statistics: Concepts, Sources and Methods (cat. no. 6102.0.55.001).

INTERPRETABILITY

The key estimates from the Labour Force Survey are available as original, seasonally adjusted and trend series. Seasonal adjustment is a means of removing the effects of normal seasonal variation from the series so other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular influences which may be present and therefore month-to-month movements may not be reliable indicators of underlying behaviour. To assist in interpreting the underlying behaviour, the ABS produces the trend series by smoothing the seasonally adjusted series to reduce the impact of the irregular component. For further information, see *A Guide to Interpreting Time Series - Monitoring Trends* (cat. no. 1349.0).

Further information on the terminology and other technical aspects associated with statistics from the Labour Force Survey can be found in the publication *Labour Force, Australia* (cat. no. 6202.0), which contains detailed Explanatory Notes, Standard Error information and a Glossary.

ACCESSIBILITY

Please see the Related Information tab for the list of products that are available from this collection.

Time Series Spreadsheet (I-Note) - Time Series Spreadsheet

Due to the flooding in Queensland in January 2011, the relative standard errors for January 2011 will vary across regions and will be higher than normal in some regions.

The RSEs for the Darling Downs-South West and Ipswich City Statistical Regions are expected to be approximately 50% higher, while the RSEs for the Brisbane City Inner Ring Statistical Region will increase by approximately 25%. The Brisbane City Outer Ring, West Moreton and Mackay-Fitzroy-Central West Statistical Regions will have RSEs approximately 10% higher. All other regions have minimal differences. However from February 2011, the data returns to normal. Refer to the article *Impact of the floods on the Labour Force Survey in January 2011* for more information.

The new labour force sample was phased-in over four months from May to August 2013. See the article on page 10 of the May 2013 issue of *Labour Force, Australia* (cat. no. 6202.0) for more information. During phase in of the new sample, standard errors associated with key labour force data were expected to increase by approximately 10% at a national level, however increased standard errors and variability in the estimates may be more evident in detailed regional data during this time.

Data Cubes (I-Note) - Data Cubes

Due to the flooding in Queensland in January 2011, the relative standard errors for January 2011 will vary across regions and will be higher than normal in some regions.

The RSEs for the Darling Downs-South West and Ipswich City Statistical Regions are expected to be approximately 50% higher, while the RSEs for the Brisbane City Inner Ring Statistical Region will increase by approximately 25%. The Brisbane City Outer Ring, West Moreton and Mackay-Fitzroy-Central West Statistical Regions will have RSEs approximately

10% higher. All other regions have minimal differences. However from February 2011, the data returns to normal. Refer to the article Impact of the floods on the Labour Force Survey in January 2011 for more information.

The new labour force sample was phased-in over four months from May to August 2013. See the article on page 10 of the May 2013 issue of Labour Force, Australia (cat. no. 6202.0) for more information. During phase in of the new sample, standard errors associated with key labour force data were expected to increase by approximately 10% at a national level, however increased standard errors and variability in the estimates may be more evident in detailed regional data during this time.

Data Cubes (I-Note) - Data Cubes

Due to the flooding in Queensland in January 2011, the relative standard errors for January 2011 will vary across regions and will be higher than normal in some regions. The RSEs for the Darling Downs-South West and Ipswich City Statistical Regions are expected to be approximately 50% higher, while the RSEs for the Brisbane City Inner Ring Statistical Region will increase by approximately 25%. The Brisbane City Outer Ring, West Moreton and Mackay-Fitzroy-Central West Statistical Regions will have RSEs approximately 10% higher. All other regions have minimal differences. However from February 2011, the data returns to normal. Refer to the article Impact of the floods on the Labour Force Survey in January 2011 for more information.

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Standard Errors

Estimates from the Labour Force Survey (LFS) are based on information collected from people in a sample of dwellings, rather than the entire population. Hence the estimates produced may differ from those that would have been produced if the entire population had been included in the survey. The most common measure of the likely difference (or 'sampling error') is the **standard error** (SE).

The ABS considers that estimates with a relative standard error of 25% or more may be subject to sampling variability too high for most practical purposes.

To determine if an item has a relative standard error of 25% or more, in SuperTABLE, right click in the centre of the table, select annotate cells - standard annotations, and select 'Annotate RSE cut-off values'.

To indicate those cells in spreadsheets with a relative standard error of 25% or more, annotations have been applied prior to dissemination.

In addition, the tables below have been supplied to show estimates at which the relative standard error is 25%. Estimates of the size indicated in the tables, or smaller, are considered to be subject to sampling variability too high for most practical purposes.

Due to the January 2011 flooding in Queensland the relative standard errors for January 2011 will be higher than normal in some regions, therefore for Queensland the estimates at which the relative standard error is 25% will be higher than they appear in the tables below. However from February, the data returns to normal.

The new labour force sample was phased-in over four months from May to August 2013. During phase in of the new sample, standard errors associated with key labour force data were expected to increase by approximately 10% at a national level, however increased standard errors and variability in the estimates may be more evident in detailed regional data during this time.

The RSEs for July 2013 (50% old sample, 50% new sample) and onwards will be subject to revisions in the future, as more information is known about the new sample after it has been introduced.

Additional information on how standard errors for LFS estimates are produced is available in Labour Force Survey Standard Errors, Data Cube (cat. no. 6298.0.55.001).

State	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
Employed									
Feb-78 — Sep-82	4.5	4.5	3.5	2.5	2.5	1.5	1.8	2.0	4.5
Oct-82 — Aug-87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep-87 — Feb-89	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Mar-89 — Aug-92	4.5	4.5	3.0	2.1	2.3	1.3	2.0	1.4	3.5
Sep-92 — Aug-97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep-97 — Sep-98	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Oct-98 — Feb-03	5.9	3.1	3.7	2.5	2.2	1.1	1.3	0.9	5.5
Mar-03 — Oct-07	6.3	3.0	4.4	2.3	2.5	1.3	1.5	1.1	6.6
Nov-07	6.2	3.2	4.3	2.3	2.5	1.3	1.4	1.1	6.4

Dec-07	6.1	3.4	4.3	2.3	2.6	1.3	1.3	1.1	6.2
Jan-08	6.0	3.6	4.2	2.3	2.6	1.3	1.3	1.2	6.0
Feb-08	5.9	3.8	4.2	2.4	2.7	1.3	1.2	1.2	5.9
Mar-08	5.9	4.1	4.2	2.4	3.0	1.2	1.1	1.2	5.7
Apr-08	5.8	4.4	4.4	2.5	3.1	1.3	1.0	1.3	5.6
May-08	5.7	4.7	4.3	2.5	3.1	1.3	1.0	1.3	5.4
Jun-08	5.5	4.9	4.3	2.5	3.3	1.3	1.0	1.3	5.3
Jul-08 — Aug-09	6.9	6.1	5.3	3.1	4.0	1.5	1.2	1.6	7.4
Sep-09	6.5	5.8	5.0	2.9	3.8	1.5	1.1	1.5	7.0
Oct-09	6.1	5.5	4.7	2.8	3.6	1.4	1.0	1.4	6.5
Nov-09	5.8	5.2	4.5	2.6	3.4	1.3	1.0	1.4	6.2
Dec-09 — Jun-13	5.5	4.9	4.3	2.5	3.3	1.3	1.0	1.3	5.8
Jul-13 — Jan-14	7.7	3.8	5.5	2.7	3.8	1.4	0.3	1.7	7.8
Feb-14 onwards	7.9	3.9	5.6	2.7	3.8	1.4	0.3	1.7	7.9

Unemployed

Feb-78 — Sep-82	4.5	4.5	3.5	2.5	2.5	1.5	1.8	2.0	4.5
Oct-82 — Aug-87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep-87 — Feb-89	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Mar-89 — Aug-92	4.5	4.5	3.0	2.1	2.3	1.3	2.0	1.4	3.5
Sep-92 — Aug-97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep-97 — Sep-98	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Oct-98 — Feb-03	5.7	5.7	4.5	2.6	3.3	1.3	3.2	1.4	4.9
Mar-03 — Oct-07	6.0	5.4	4.9	2.9	3.6	1.6	2.2	1.6	5.2
Nov-07	6.1	5.4	5.0	2.9	3.7	1.6	2.1	1.7	5.2
Dec-07	6.2	5.5	5.0	2.9	3.8	1.7	1.9	1.7	5.2
Jan-08	6.3	5.6	5.0	3.0	4.0	1.7	1.8	1.8	5.2
Feb-08	6.4	5.7	5.1	3.0	4.1	1.7	1.7	1.8	5.1
Mar-08	6.7	5.7	5.2	3.1	4.5	1.8	1.6	1.9	5.1
Apr-08	6.8	5.9	5.5	3.2	4.6	1.9	1.5	1.9	5.2
May-08	6.9	6.0	5.5	3.3	4.8	1.9	1.4	2.0	5.1
Jun-08	7.1	6.1	5.6	3.3	5.0	1.9	1.4	2.1	5.1
Jul-08 — Aug-09	9.3	8.0	7.4	4.4	6.6	2.5	1.8	2.8	7.3
Sep-09	8.7	7.5	6.8	4.1	6.1	2.4	1.6	2.5	6.8
Oct-09	8.1	7.0	6.4	3.8	5.7	2.2	1.5	2.4	6.4
Nov-09	7.5	6.5	6.0	3.5	5.3	2.1	1.5	2.2	6.0
Dec-09 — Jun-13	7.1	6.1	5.6	3.3	5.0	1.9	1.4	2.1	5.7
Jul-13 — Jan-14	7.3	6.6	8.4	3.7	5.8	1.7	1.3	2.2	7.1
Feb-14 onwards	7.4	6.7	8.6	3.8	5.9	1.8	1.3	2.3	7.3

NILF

Feb-78 — Sep-82	4.5	4.5	3.5	2.5	2.5	1.5	1.8	2.0	4.5
Oct-82 — Aug-87	4.0	4.0	3.0	1.8	2.0	1.0	1.8	1.3	3.5
Sep-87 — Feb-89	4.5	4.5	3.0	2.0	2.5	1.3	1.8	1.5	4.0
Mar-89 — Aug-92	4.5	4.5	3.0	2.1	2.3	1.3	2.0	1.4	3.5
Sep-92 — Aug-97	5.3	4.6	3.5	2.4	2.9	1.3	1.3	1.0	4.0
Sep-97 — Sep-98	5.9	4.5	4.1	2.4	2.8	1.1	1.0	1.1	4.4
Oct-98 — Feb-03	6.4	3.7	4.1	3.2	2.7	1.2	1.4	1.1	6.0
Mar-03 — Oct-07	7.8	3.7	5.2	3.0	3.2	1.5	2.0	1.3	7.3
Nov-07	7.6	3.9	5.1	3.0	3.2	1.5	1.8	1.3	7.0
Dec-07	7.4	4.1	5.1	3.0	3.3	1.5	1.7	1.4	6.8
Jan-08	7.3	4.4	5.0	3.0	3.4	1.5	1.6	1.4	6.6
Feb-08	7.1	4.7	5.0	3.1	3.5	1.5	1.5	1.4	6.3
Mar-08	7.1	5.0	4.9	3.1	3.8	1.5	1.3	1.5	6.2
Apr-08	7.0	5.4	5.3	3.2	3.9	1.5	1.2	1.5	6.0
May-08	6.8	5.7	5.2	3.2	4.0	1.5	1.1	1.6	5.8

Jun-08	6.6	6.0	5.2	3.2	4.1	1.5	1.1	1.6	5.6
Jul-08 — Aug-09	8.3	7.6	6.5	4.0	5.2	1.8	1.4	2.0	8.0
Sep-09	7.8	7.2	6.1	3.7	4.9	1.7	1.3	1.9	7.4
Oct-09	7.3	6.7	5.8	3.5	4.6	1.6	1.2	1.8	6.9
Nov-09	6.9	6.4	5.4	3.3	4.4	1.6	1.2	1.7	6.5
Dec-09 — Jun-13	6.6	6.0	5.2	3.2	4.1	1.5	1.1	1.6	6.2
Jul-13 — Jan-14	8.4	4.4	9.8	3.6	4.5	1.8	0.7	2.5	9.0
Feb-14 onwards	8.5	4.5	9.9	3.7	4.6	1.8	0.8	2.5	9.1

Greater Capital City Statistical Areas	Feb-78	Oct-82	Sep-87	Mar-89	Sep-92	Sep-97 — Oct-98	Oct-98
	—	—	—	—	—	Sep-98	—
	Sep-82	Aug-87	Feb-89	Aug-92	Aug-97		Feb-03
Greater Sydney	4.5	4.0	4.5	4.5	5.3	5.7	5.8
Rest of NSW	4.5	4.0	4.5	4.5	5.3	5.7	5.8
Greater Melbourne	4.5	4.0	4.5	4.5	4.6	4.6	3.3
Rest of Victoria	4.5	4.0	4.5	4.5	4.6	4.3	3.2
Greater Brisbane	3.5	3.0	3.0	3.0	3.5	3.7	3.4
Rest of Queensland	3.5	3.0	3.0	3.0	3.6	4.3	3.6
Greater Adelaide	2.5	1.8	2.0	2.1	2.4	2.4	2.7
Rest of South Australia	2.5	1.8	2.0	2.1	2.5	2.2	2.5
Greater Perth	2.5	2.0	2.5	2.3	2.9	2.6	2.3
Rest of Western Australia	2.5	2.0	2.5	2.3	2.9	2.8	2.2
Greater Hobart	1.5	1.0	1.3	1.3	1.3	1.1	0.9
Rest of Tasmania	1.5	1.0	1.3	1.3	1.3	1.1	1.1

	Mar-03	Mar-08	Jul-08 — Oct-09	Nov-09	Jul-13 — Jan-14	Feb-14 onwards
	—	—	—	—	—	—
	Feb-08	Jun-08		Jun-13		
Greater Sydney	6.5	5.7	7.1	5.7	7.6	7.7
Rest of NSW	6.4	5.6	7.0	5.6	7.5	7.6
Greater Melbourne	3.2	5.1	6.4	5.1	4.0	4.0
Rest of Victoria	3.1	5.0	6.3	5.0	3.9	3.9
Greater Brisbane	4.1	4.0	5.0	4.0	5.9	6.0
Rest of Queensland	4.4	4.3	5.4	4.3	6.3	6.4
Greater Adelaide	2.5	2.7	3.4	2.7	3.0	3.0
Rest of South Australia	2.4	2.5	3.1	2.5	2.8	2.8
Greater Perth	2.6	3.5	4.3	3.5	3.9	4.0
Rest of Western Australia	2.5	3.3	4.1	3.3	3.7	3.8
Greater Hobart	1.1	1.1	1.4	1.1	1.3	1.3
Rest of Tasmania	1.3	1.3	1.6	1.3	1.5	1.5

Statistical Area Level 4 Regions	4 Oct-98	Mar-03	Mar-08	Jul-08	Nov-09	Jul-13	Feb-14 onwards
	—	—	—	—	—	—	—
	Feb-03	Feb-08	Jun-08	Oct-09	Jun-13	Jan-14	
Central Coast	7.4	8.5	7.2	9.4	7.2	10.2	10.4
Sydney - Baulkham Hills and Hawkesbury	7.2	8.3	7.0	9.2	7.0	10.0	10.2
Sydney - Blacktown	7.3	8.3	7.1	9.3	7.1	10.0	10.2
Sydney - City and Inner South	8.5	9.7	8.3	10.8	8.3	11.7	11.9
Sydney - Eastern Suburbs	9.6	11.0	9.3	12.2	9.3	13.1	13.4

Sydney - Inner South West	7.3	8.4	7.1	9.3	7.1	10.1	10.3
Sydney - Inner West	7.7	8.8	7.5	9.8	7.5	10.6	10.8
Sydney - North Sydney and Hornsby	7.6	8.6	7.3	9.6	7.3	10.4	10.6
Sydney - Northern Beaches	7.8	8.9	7.6	9.9	7.6	10.7	10.9
Sydney - Outer South West	7.3	8.4	7.1	9.3	7.1	10.1	10.3
Sydney - Outer West and Blue Mountains	7.3	8.3	7.1	9.3	7.1	10.0	10.2
Sydney - Parramatta	7.8	8.9	7.6	10.0	7.6	10.8	11.0
Sydney - Ryde	7.7	8.8	7.5	9.8	7.5	10.6	10.8
Sydney - South West	7.5	8.6	7.3	9.6	7.3	10.4	10.6
Sydney - Sutherland	7.4	8.4	7.2	9.4	7.2	10.1	10.3
Capital Region	7.2	8.2	7.0	9.2	7.0	9.9	10.1
Central West	7.6	8.7	7.4	9.7	7.4	10.5	10.7
Coffs Harbour - Grafton	7.6	8.7	7.4	9.7	7.4	10.5	10.7
Far West and Orana	7.4	8.4	7.2	9.4	7.2	10.1	10.3
Hunter Valley exc Newcastle	7.1	8.1	6.9	9.0	6.9	9.8	10.0
Illawarra	7.6	8.7	7.4	9.7	7.4	10.5	10.7
Mid North Coast	7.5	8.6	7.3	9.6	7.3	10.3	10.6
Murray	7.6	8.6	7.4	9.6	7.4	10.4	10.6
New England and North West	7.6	8.7	7.4	9.7	7.4	10.5	10.7
Newcastle and Lake Macquarie	7.1	8.1	6.9	9.0	6.9	9.8	9.9
Richmond - Tweed	7.6	8.7	7.4	9.7	7.4	10.5	10.7
Riverina	7.6	8.6	7.4	9.6	7.4	10.4	10.6
Southern Highlands and Shoalhaven	9.0	10.3	8.7	11.4	8.7	12.3	12.6
Melbourne - Inner	4.1	3.9	7.2	9.4	7.2	5.2	5.3
Melbourne - Inner East	3.6	3.4	6.2	8.2	6.2	4.5	4.6
Melbourne - Inner South	3.7	3.5	6.4	8.4	6.4	4.7	4.8
Melbourne - North East	3.8	3.6	6.6	8.6	6.6	4.8	4.9
Melbourne - North West	3.7	3.6	6.5	8.6	6.5	4.7	4.8
Melbourne - Outer East	3.8	3.6	6.6	8.7	6.6	4.8	4.9
Melbourne - South East	3.6	3.4	6.3	8.3	6.3	4.6	4.7
Melbourne - West	3.5	3.4	6.1	8.1	6.1	4.4	4.5
Mornington Peninsula	3.6	3.5	6.4	8.3	6.4	4.6	4.7
Ballarat	4.0	3.8	6.9	9.1	6.9	5.0	5.1
Bendigo	3.8	3.7	6.7	8.8	6.7	4.9	5.0
Geelong	3.7	3.5	6.5	8.5	6.5	4.7	4.8
Hume	4.3	4.1	7.4	9.7	7.4	5.4	5.5
Latrobe - Gippsland	4.1	3.9	7.2	9.4	7.2	5.2	5.3
North West	3.9	3.7	6.8	8.9	6.8	4.9	5.0
Shepparton	4.3	4.1	7.4	9.7	7.4	5.4	5.5
Warrnambool and South West	3.7	3.5	6.5	8.5	6.5	4.7	4.8
Brisbane - East	4.1	5.1	5.1	6.7	5.1	8.1	8.2
Brisbane - North	4.1	5.2	5.1	6.7	5.1	8.1	8.3
Brisbane - South	4.2	5.2	5.2	6.8	5.2	8.2	8.4
Brisbane - West	4.1	5.2	5.1	6.7	5.1	8.2	8.3

Brisbane Inner City	4.2	5.3	5.3	6.9	5.3	8.4	8.6
Ipswich	4.0	5.0	5.0	6.5	5.0	7.9	8.1
Logan - Beaudesert	4.3	5.4	5.3	7.0	5.3	8.4	8.6
Moreton Bay - North	3.9	4.9	4.8	6.4	4.8	7.7	7.9
Moreton Bay - South	3.9	4.9	4.8	6.3	4.8	7.7	7.9
Cairns	4.9	6.2	6.1	8.0	6.1	9.7	9.9
Darling Downs - Maranoa	4.6	5.8	5.7	7.5	5.7	9.1	9.3
Fitzroy	4.2	5.3	5.2	6.9	5.2	8.3	8.5
Gold Coast	4.3	5.5	5.4	7.1	5.4	8.6	8.7
Mackay	4.2	5.3	5.2	6.9	5.2	8.3	8.5
Queensland - Outback	4.7	5.9	5.8	7.6	5.8	9.2	9.4
Sunshine Coast	4.3	5.4	5.3	7.0	5.3	8.5	8.7
Toowoomba	4.6	5.8	5.7	7.5	5.7	9.0	9.2
Townsville	4.7	5.9	5.8	7.6	5.8	9.2	9.4
Wide Bay	4.6	5.8	5.7	7.5	5.7	9.0	9.2
Adelaide - Central and Hills	3.3	3.1	3.3	4.3	3.3	3.7	3.8
Adelaide - North	3.3	3.0	3.3	4.3	3.3	3.7	3.8
Adelaide - South	3.4	3.1	3.4	4.4	3.4	3.8	3.9
Adelaide - West	3.7	3.4	3.7	4.8	3.7	4.1	4.2
Barossa - Yorke - Mid North	3.5	3.2	3.5	4.5	3.5	3.9	4.0
South Australia - Outback	3.7	3.4	3.7	4.8	3.7	4.1	4.2
South Australia - South East	3.1	2.8	3.1	4.0	3.1	3.5	3.5
Mandurah	2.4	2.8	4.0	5.2	4.0	4.6	4.7
Perth - Inner	3.1	3.5	4.9	6.5	4.9	5.8	5.9
Perth - North East	2.9	3.3	4.6	6.1	4.6	5.4	5.5
Perth - North West	2.8	3.2	4.5	5.9	4.5	5.2	5.3
Perth - South East	2.9	3.3	4.7	6.1	4.7	5.5	5.6
Perth - South West	2.7	3.1	4.3	5.7	4.3	5.0	5.1
Bunbury	2.4	2.8	4.0	5.2	4.0	4.6	4.7
Western Australia - Outback	2.8	3.3	4.6	6.0	4.6	5.4	5.5
Western Australia - Wheat Belt	2.6	3.0	4.2	5.5	4.2	4.9	5.0
Greater Hobart	0.9	1.1	1.1	1.4	1.1	1.3	1.3
Launceston and North East	1.3	1.5	1.5	1.9	1.5	1.7	1.8
Tasmania - South East	1.6	1.9	1.9	2.4	1.9	2.2	2.2
Tasmania - West and North West	1.3	1.6	1.6	2.0	1.6	1.8	1.8
Darwin	1.4	1.7	1.0	1.3	1.0	0.9	0.9
Northern Territory - Outback	1.4	1.7	1.0	1.3	1.0	0.9	0.9

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